

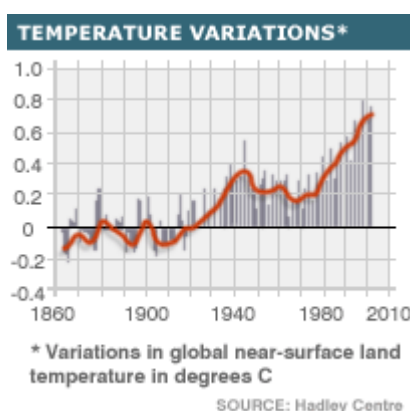
CLIMATE CHANGE IN THE EUROPEAN UNION

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Abstract

It is now universally accepted that climate change is happening and that is caused by man's behaviour. Global warming is accelerating and the average temperature is likely to rise up to 4 degrees by the end of this century if nothing is done. The European Union has risen the occasion by putting in place the world's most famous ambitions global strategy for combating climate change.

Climate change is one of the greatest environmental, social and economic threats facing the planet. The warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global mean sea level. The ten warmest years on record all occurred after 1991. Since the beginning of the 90s, climate change has moved up high on the international and European political agenda. The Earth's average surface temperature has risen by 0.76° C since 1850. Most of the warming that has occurred over the last 50 years is very likely to have been caused by human activities. In its Fourth Assessment Report (AR4), published on 2 February 2007, the Intergovernmental Panel on Climate Change (IPCC) projects that, without further action to reduce greenhouse gas emissions, the global average surface temperature is likely to rise by a further 1.8-4.0°C this century. Even the lower end of this range would take the temperature increase since pre-industrial times above 2°C, the threshold beyond which irreversible and possibly catastrophic changes become far more likely.



Projected global warming this century is likely to trigger serious consequences for humanity and other life forms, including a rise in sea levels of between 18 and 59 cm which will endanger coastal areas and small islands, and a greater frequency and severity

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of extreme weather events. Human activities that contribute to climate change include in particular the burning of fossil fuels, agriculture and land-use changes like deforestation. These cause emissions of carbon dioxide (CO₂), the main gas responsible for climate change, as well as of other 'greenhouse' gases. To bring climate change to a halt, global greenhouse gas emissions must be reduced significantly. The European Union is at the forefront of international efforts to combat climate change and has played a key role in the development of the two major treaties addressing the issue, the United Nations Framework Convention on Climate Change (1992) and its Kyoto Protocol, agreed in 1997¹.

In a report, published in January 2007, EU: *Climate change will transform the face of the continent* by Michael McCarthy and Stephen Castle, marks a step change in Europe's own role in pushing for international action to combat climate change, as it will be used in a bid to commit the EU to ambitious new targets for cutting emissions of greenhouse gases. "Climate change will alter the supply of European ecosystem services over the next century," the report says. "While it will result in enhancement of some ecosystem services, a large portion will be adversely impacted because of drought, reduced soil fertility, fire, and other climate change-driven factors. Europe can expect a decline in arable land, a decline in Mediterranean forest areas, a decline in the terrestrial carbon sink and soil fertility, and an increase in the number of basins with water scarcity. It will increase the loss of biodiversity."

The report predicts there will be some European "winners" from climate change, at least initially. In the north of the continent, agricultural yields will increase with a lengthened growing season and a longer frost-free period. Tourism may become more popular on the beaches of the North Sea and the Baltic as the Mediterranean becomes too hot, and deaths and diseases related to winter cold will fall.

But the negative effects will far outweigh the advantages. Take tourism. The report says "the zone with excellent weather conditions, currently located around the Mediterranean (in particular for beach tourism) will shift towards the north". And it spells out the consequences.

"The annual migration of northern Europeans to the countries of the Mediterranean in search of the traditional summer 'sun, sand and sea' holiday is the single largest flow of tourists across the globe, accounting for one-sixth of all tourist trips in 2000. This large group of tourists, totalling about 100 million per annum, spends an estimated €100bn (£67bn) per year. Any climate-induced change in these flows of tourists and money would have very large implications for the destinations involved."

While they are losing their tourists, the countries of the Med may also be losing their agriculture. Crop yields may drop sharply as drought conditions, exacerbated by more frequent forest fires, make farming ever more difficult. And that is not the only threat to Europe's food supplies. Some stocks of coldwater fish in areas such as the North Sea will move northwards as the water warms.

¹ Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol.

There are many more direct threats, the report says. The cost of taking action to cope with sea-level rise will run into billions of euros. Furthermore, "for the coming decades, it is predicted the magnitude and frequency of extreme weather events will increase, and floods will likely be more frequent and severe in many areas across Europe."

The number of people affected by severe flooding in the Upper Danube area is projected to increase by 242,000 in a more extreme 3C temperature rise scenario, and by 135,000 in the case of a 2.2C rise. The total cost of damage would rise from €47.5bn to €66bn in the event of a 3C increase.

Like it was said before, the European Commission wants to hold back the rise in global temperatures to 2C above the pre-industrial level (at present, the level is 0.6C). To do that, it wants member states to commit to cutting back emissions of carbon dioxide, the principal greenhouse gas, to 30 % below 1990 levels by 2020, as long as other developed countries agree to do the same.

The EU has been taking serious steps to address its own greenhouse gas emissions since the early 1990s. In March 2000 the Commission launched the European Climate Change Programme (ECCP). The ECCP has led to the adoption of a wide range of new policies and measures. Among these is the pioneering EU Emissions Trading Scheme¹, launched on 1 January 2005, which has become the cornerstone of EU efforts to reduce emissions cost-effectively.

Monitoring data and projections indicate that the 15 European Union members at the time of the EU's ratification of the Kyoto Protocol in 2002 (EU-15) will reach their Kyoto Protocol target for cutting greenhouse gas emissions. This requires emissions in 2008-2012 to be 8% below 1990 levels. However, Kyoto is only a first step. Ambitious action to reduce global emissions is needed after 2012, when Kyoto's targets expire, in order to limit global warming to 2°C. In January 2007 the European Commission set out proposals and options for achieving this in its Communication "Limiting Global Climate Change to 2 degrees Celsius: The way ahead for 2020 and beyond".

EU Kyoto commitments²

Since the end-90s, the EU has committed itself to play a global leadership role as regards the fight against global warming. After the American government decided to withdraw from Kyoto, the EU used all its diplomatic power to keep other countries (esp. Russia) to their word and succeeded in getting enough countries to sign. On the other hand, its own Lisbon priorities (competitiveness, jobs and economic growth) prevented the Union from making climate change policy really one of its main concerns. The fact that climate change is still seen as an environmental issue (and therefore dealt with by DG Environment) is significant.

The European Climate Change Programmes (ECCP)

¹ Directive 2003/87/EC of the European Parliament and of the Council- for the European Trading Scheme.

² The Kyoto Protocol enters into force in February 2005.

The first ECCP was launched in 2000. It is a stakeholder structure under which the Commission debates with industries and NGOs and prepares new cost-effective measures to fight climate change. ECCP identified and implemented around 30 measures: eg. the emission trading scheme, the "linking directive", the directive on the promotion of electricity from renewables or the voluntary agreement with car producers to reduce CO₂ emissions from cars.

ECCP II started in 2005. It will review what has been achieved with ECCP and focus furthermore on carbon capture and storage, inclusion of the transport sector into the ETS and adaptation policies.

Costs and benefits

There are large uncertainties and debates over the costs and potential benefits of mitigating climate change. It is therefore necessary to find the most cost-effective solutions to reducing greenhouse gas emissions. The most extensive study on the costs of climate change mitigation, the UK's 2006 Stern Report estimated that the cost of action can be limited to 1% of global GDP each year.

On 27 October 2006, the **European Environment Agency** warned that, with existing measures, only two EU-15 countries (Sweden and UK) would reach their reduction targets. With these existing policies only, the EU-15 is on track to reach only a 0.6% reduction by 2010. Additional policies and measures in the context of the Kyoto flexible mechanisms and actions related to carbon sinks, will be needed to reach the 8% reduction goal by 2012. Also, European industry has expressed worries that the EU's climate change policy might undermine its competitive position in the world economy. It has, on several occasions, criticised the EU's "going-it alone" strategy and has underlined the need for global solutions. On the other hand, Green NGOs, think that EU policies do not go far enough. NGOs pointed to a lack of urgency and to shortcomings in EU policy. In a joint position paper for the start of ECCP II, CAn Europe, Friends of the Earth, Greenpeace and WWF demanded a thorough review of the first ECCP and more ambitious targets and policies. Despite all of those opinions, the Commission has published a positive mid-term review of the 6th Environment Action Programme (EAP), concluding that implementation is "broadly on track". Looking ahead, the Commission is seeking to develop further actions, particularly with respect to climate change.

The Commission focusses in its mid-term review on European leadership in the battle against global climate change. In the coming years, the Commission intends to capitalise on this leadership by setting "the agenda for a new international agreement" to take effect after the expiration of the Kyoto Protocol in 2012. The Commission also promises to propose an improvement to the emissions-trading system later this year.

In this regard Stavros Dimas stated that even before negotiations on a global agreement start¹, the EU leaders have agreed that the EU should make a firm, independent commitment to reduce our emissions by at least 20%. There are compelling reasons for making this independent commitment. This will lead to a number of advantages. First, the economic cost of making this independent commitment is limited. It will cost between 0.02 and 0.09 per cent of the European Union's annual GDP. Compared to the consequences of inaction, this is a reasonable price to pay, especially if

¹ Stavros Dimas-Member of European Commission, responsible for environment- Climate Change: European leadership and the role of the European Parliament, Brussels, 27 March 2007.

the important co-benefits of action in other areas are taken into account. These include increased energy security, efficient use of resources, improved competitiveness through innovation, and significant health benefits from reduced air pollution. This will give a clear signal to economic operators that we are serious about moving towards a low-carbon economy. Therefore it will be saved 20% of energy needs by 2020 by improving energy efficiency. The European Council has also committed itself to legally binding targets for raising the share of renewable energies to 20% and of biofuels to 10% by the same deadline of 2020. It has welcomed the Commission's intention to have up to 12 large scale carbon capture and storage demonstration projects in operation by 2015. Also Mr. Dimas said that, in order to avoid a policy gap after 2012 it is essential that negotiations on a global agreement are launched at the UN ministerial conference on climate change in Bali at the end of the year.

At the same time, in December 2006, it has been proposed a directive to tackle carbon dioxide emissions from aviation by bringing this sector into the EU emissions trading scheme from 2011. CO₂ emissions from aviation have grown almost 90% since 1990, much faster than any other transport sector. By 2020 our approach will save over 180 million tonnes of CO₂ every year – equivalent to twice Austria's annual emissions from all sources today. Also in January it has been proposed a revision of the fuel quality directive that, among other things, requires a 10% cut in greenhouse gas emissions from transport fuels by 2020. Cumulatively this will save around 500 million tonnes of CO₂, or as much as Spain and Sweden together emit in a whole year. In February 2007, it has been revised the EU's strategy for reducing CO₂ emissions from new cars. The voluntary agreement with the car industry did not deliver and we have decided to propose legislation to reach the long-standing goal of cutting average emissions to 120 grammes per kilometre by 2012. This will be achieved by improvements in vehicle engine technology, down to 130 grammes per kilometre, couple with complementary measures that will deliver the remaining 10 grammes. All of these initiatives have been sent to the Parliament.

Relevant legislative revisions or policy measures are outlined in seven Thematic Strategies that deal with: soil, air pollution, the marine environment, natural resources, pesticides, the urban environment and waste. All seven strategies have been adopted. Also, progress has been made in a number of areas over the past five years. In January 2007, for example, the EU committed to reducing greenhouse-gas emissions to 30% below 1990 levels by 2020.

Another important activity which is planned to take place later this year, will be to propose revisions to improve and strengthen the scheme, in anticipation that it will play a central role in a post-2012 global climate agreement. This revision will broaden emission trading to new sectors and gases, streamline the allocation process and prepare the ground for linking the EU ETS with other trading schemes around the world.

Recently, the Commission president, José Manuel Barroso, gave US President George Bush a preview of the new policy during a visit to the White House. President Bush and European leaders claimed progress in the effort to reduce global warming, largely by agreeing that climate change requires global action without infringing on the rights of nations to choose their own strategies. "I think that each country needs to recognize that we must reduce our greenhouse gases and deal, obviously, with their own internal politics, to come up with an effective strategy," Bush said at a U.S.-European

Union summit at the White House. It was recognized that technology is going to lead to solutions, and that we're willing to share those technologies." The agreement the leaders signed promotes alternative fuels and energy efficiency, with a promise of cooperation on emerging technologies. It is intended to clear a path for a broader discussion about climate change at the G8 summit this June in Germany.

Among latest events that took place in this domain, deserve to be reminded the Commission's propose in January 2007, that EU to undertake a 'unilateral' 20% reduction in greenhouse gas emissions by 2020. Also, in February 2007, the Parliament has adopted a resolution in order to reduce to 30% by 2020 and 60-80% by 2050

If nothing is done, Europe, the richest and most fertile continent and the model for the modern world, will be devastated by climate change . The ecosystems that have underpinned all European societies from Ancient Greece and Rome to present-day Britain and France, and which helped European civilisation gain global pre-eminence, will be disabled by remorselessly rising temperatures, EU scientists forecast in a remarkable report which is as ominous as it is detailed. Much of the continent's age-old fertility, which gave the world the vine and the olive and now produces mountains of grain and dairy products, will not survive the climate change forecast for the coming century, the scientists say, and its wildlife will be devastated. The year 2008 will be a crucial to take forward the Energy and Climate Package. The Annual Policy Strategy for 2008 therefore rightly confirms climate change as a core priority for the Commission.

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